

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (Currently Amended). A method of processing an audio signal comprising the steps of:

receiving a plurality of M sound source signals, each of said M sound source signals having attributes including at least one of position information, movement information, and localization position information;

arranging said M sound source signals in N groups based on the attributes of the M sound source signals so as to form N grouped sound source signals, where N is less than M;

storing the N grouped sound source signals;

providing control signals having one of position information and movement information;

reading out the stored N grouped sound source signals;
and

performing virtual localization processing on the read-out N grouped sound source signals based on the control signals so as to produce left and right stereo signals.

Claim 2 (Previously Presented). The method of processing an audio signal according to claim 1, wherein said step of performing virtual localization processing is a virtual sound

image localization for obtaining the left and right stereo signals supplied to a pair of acoustic transducers to localize a sound image at an arbitrary position around a listener.

Claim 3 (Previously Presented). The method of processing an audio signal according to claim 1, wherein at least one of said attributes of said M sound source signals is changed by a change instruction.

Claim 4 (Previously Presented). The method of processing an audio signal according to claim 3, wherein said change instruction is supplied by a user's operation.

Claim 5 (Previously Presented). The method of processing an audio signal according to claim 3, wherein said change instruction is obtained by detecting a movement of a listener's head.

Claim 6 (Currently Amended). The method of processing an audio signal according to claim 1, further comprising the step of supplying random fluctuations to at least one sound source signal of said M sound source signals and/or said N grouped sound source signals.

Claim 7 (Currently Amended). The method of processing an audio signal according to claim 1, wherein a number of groups of said N grouped sound source signals is two or greater, at least one of said N grouped sound source signals is based on

the attribute of localization information.

Claim 8 (Currently Amended). The method of processing an audio signal according to claim 1, further comprising the steps of changing a video signal in response to changes of reproducing localization positions of said M sound source signals or said N grouped sound source signals and outputting said video signals.

Claim 9 (Currently Amended). A method of processing an audio signal comprising the steps of:

receiving a plurality of M sound source signals, each of said M sound source signals having attributes including at least one of position information, movement information, and localization position information;

arranging said M sound source signals in N groups based on the attribute of the M sound source signals so as to form N grouped sound source signals, where N is less than M ;

storing the N grouped sound source signals;

providing control signals having one of position information and movement information;

reading out the stored N grouped sound source signals;
and

performing virtual localization processing on the read-out grouped sound source signals based on the control information so as to produce left and right stereo signals.

Claim 10 (Previously Presented). The method of processing an audio signal according to claim 9, wherein at least one of said attributes of said M sound source signals is changed by a change instruction.

Claim 11 (Previously Presented). The method of processing an audio signal according to claim 10, wherein said change instruction is supplied by a user's operation.

Claim 12 (Previously Presented). The method of processing an audio signal according to claim 10, wherein said change instruction is obtained by detecting a movement of a listener's head.

Claim 13 (Currently Amended). The method of processing an audio signal according to claim 9, further comprising the step of supplying random fluctuations to said N grouped sound source signals.

Claim 14 (Currently Amended). The method of processing an audio signal according to claim 9, wherein a number of groups of said N grouped sound source signals is two or larger, at least one of said grouped sound source signals is based on the attribute of localization information.

Claim 15 (Currently Amended). An apparatus for processing an audio signal comprising:

means for receiving a plurality of M sound source

signals, each of said sound source signals having attributes including at least one of position information, movement information, and localization position information;

means for arranging said M sound source signals in N groups based on the attributes of the M sound source signals so as to form N grouped sound source signals, where N is less than M;

a memory for storing the N grouped sound source signal;

means for providing control signals having one of position information and movement information;

means for reading out from the memory the stored N grouped sound source signals; and

a processor for performing virtual localization processing on the read-out N grouped sound source signals based on the control signals so as to produce left and right stereo signals.

Claim 16 (Previously Presented). The apparatus for processing an audio signal according to claim 15, wherein said virtual localization processing in said processor is a virtual sound image localization for obtaining the left and right stereo signals supplied to a pair of acoustic transducers to localize a sound image at an arbitrary position around a listener.

Claim 17 (Currently Amended). An apparatus for processing an audio signal comprising:

means for receiving a plurality of M sound source signals, each of said sound source signals having attributes including at least one of position information, movement information, and localization position information;

means for arranging said M sound source signals in N groups based on the attributes of the M sound source signals so as to form grouped sound source signals, where N is less than M ;

memory means for storing said N grouped sound source signals;

reproducing means for reading out said N grouped sound source signals;

means for providing control signals having one of position information and movement information; and

a signal processor for performing virtual localization processing on the read-out N grouped sound source signals based on the control signals so as to produce left and right stereo signals.

Claim 18 (Previously Presented). The apparatus for processing an audio signal according to claim 17, wherein said localization processing of said signal processor is a virtual sound image localization for obtaining the left and right stereo signals supplied to a pair of acoustic transducers to localize a sound image at an arbitrary position around a listener.

Claims 19-23 (Canceled).